

TITLE:

Infant formula-preparing devise capable of feeding multiple infants by separately combining varying brands and amounts of formula with sanitized water that has been maintained at a predetermined temperature.

CROSS-REFERENCE TO RELATED APPLICATIONS:

Patents have been issued that attempt to satisfy the needs of parents and care givers to prepare infant formula by mechanical means. U.S. Patent No. 5,570,816 issued Nov. 5, 1996 to G. LaBarbara, like other prior art in this field, has answered this need, but unfortunately is suitable only for one or more infants using the same brand of formula, because the patent specifies only one storage compartment for the baby formula. Although this single compartment serves its purpose for one infant, it would be highly impractical to use this devise to feed multiple children who consume different brands of formula. The same can be said for U.S. Patent No. 5,397,031 issued March 14, 1995 to M.T. Jensen, which also contains only one storage compartment for formula. U.S. Patent No. 5,419,445 issued May 30, 1995 to D.M. Kaesemeyer and U.S. Patent No. 5,671,325 issued September 23, 1997 to D. J. Robertson both have one formula storage compartment for the preparation of one infant's dietary needs, but again are highly impractical for feeding multiple infants who need varying brands of formula. The need, therefore, arises for an infant feeding devise capable of providing vital nourishment in one self-contained unit for multiple children who require different brands and amounts of formula.

BACKGROUND OF INVENTION:

Caring for infants is an arduous task. The stress of caring for just one child can be overwhelming, let alone trying to satisfy the needs of multiple infants whose wails will not ease until proper nourishment has been provided. Couple this with the need to properly sanitize the water and then maintain the balance between hot and cold water to achieve the optimal temperature range vital in infant feeding. This invention can reduce this burden to the press of a few buttons. The water has already been sterilized and maintained at the desired temperature; all that is necessary is for the machine to determine the proper volume and compartment to be released as selected by the user, and -- in a matter of seconds -- the formula is ready to be served.

Although several patents have been issued for devices that try to satisfy individual needs of preparing baby formula by mechanical means, there is a need to incorporate this idea to serve multiple infants within one device.

Day-care providers generally look after the needs of many infants. Due to the nature of this present invention, it is possible for day-care providers to simultaneously prepare a distinct formula for several different infants.

Once a family has determined the brand of formula to use in their infant's feeding routine, it is important for that infant to consume that selected brand, unless it is found to cause harm to the infant's digestive system. Therefore, the need arises for a device to provide each infant with his or her own formula. Unlike other inventions within this field whose storage compartments are designed for one type of formula at one time, this present invention has individual compartments that allow for different types of formula to be stored in the same unit without coming in contact with each other.

Another great benefit this device provides deals with the sanitization of its parts. Past patents have been issued for baby formula preparation devices whose storage containers and methods of measurement are housed within the mechanical workings of the unit. This greatly inhibits the user's ability to properly clean the device. This present invention has been designed to allow the storage container to be removed enabling the entire container to be properly sanitized. Also, the mechanical parts that release the baby formula are either on the surface allowing easy access for cleaning or are void of contact from the baby formula to be released.

SUMMARY OF THE INVENTION:

The present device is a mechanical unit capable of combining various types and amounts of baby formula along with sterilized water with the proper ratio of formula to water on a continuous basis. Due to the device's individual containers, which each have separate compartments, this unit can feed multiple infants several meals each, or one infant the total number of individual meals. This invention significantly reduces the number of steps that day-care providers must take in order to feed the infants in their care, in addition to assisting individual families, who desire to ease the feeding process throughout the day and, especially, throughout the night.

BRIEF DESCRIPTION OF DRAWINGS:

- Figure 1. Full View Of Baby Formula Preparation Device
- Figure 2. Rotating Container
- Figure 3. Compartment (opened)
- Figure 4. Compartment (closed)
- Figure 5. Compartment Releaser (engaged position)
- Figure 6. Compartment Releaser (latched position)
- Figure 7. Compartment Releaser (retracted position)

- 1. Electric Control Panel
- 2. Rotating Assembly Motor
- 3. Rotating Container
- 4. Rotating Assembly
- 5. Formula Dispensing Compartment
 - a. Notch
 - b. Retractable Bottom
- 6. Rotating Bottle Receptacle Motor
- 7. Chamber Release Valve
- 8. Compartment Releaser
 - a. Motor
 - b. Latch
- 9. Water Volume Sensor
- 10. Reservoir
- 11. Water Temperature Sensor
- 12. Power Cord
- 13. Electric Water Heater
- 14. Rotating Container Motor
- 15. Water Chamber
- 16. Reservoir Release Valve

17. Water Tube
18. Baby Formula Funnel
19. Rotating Bottle Receptacle Assembly
20. Rotating Bottle Receptacle

DETAILED DESCRIPTION OF DRAWINGS:

The drawings will be described in the order of operations the device follows in the process of preparing warm baby formula. Figure 1 is an orthographic view of the entire baby formula preparation device.

First the user fills Formula Dispensing Compartments 5 with baby formula located within each Rotating Container 3. Then the user fills Reservoir 10 with water. Once filled with water, the user selects the temperature they desire for their babies formula on Electric Control Panel 1. The user may also have the option of pressing sterilize, which brings the water to a boil. Electric Water Heater 13 then heats water to desired temperature or to the waters boiling point. Once the water has begun to boil, Water Heater 13 is switched off by Water Temperature Sensor 11, and allows water to cool to desired temperature. When the desired temperature has been reached Water Temperature Sensor 11 and Water Heater 13 communicate to maintain desired temperature for an extended period of time.

When the user is in need of baby formula he or she presses the desired Rotating Container 3 on Electric Control Panel 1. The user then selects the amount of formula to be prepared on Electric Control Panel 1. The process then begins immediately. The water is released through Reservoir Release Valve 16 where it flows into Water Chamber 15. Once Water Volume Sensor 9 detects proper amount of water has been released into Water Chamber 15, Water Volume Sensor 9 closes Water Release Valve 16 and proceeds to open Chamber Release Valve 7. Chamber Release Valve 7 allows water to flow into Water Tube 17; whose mouth has been properly aligned to release its contents directly into bottle.

While the process of expelling sterilized water is taking place, dry baby powder is being maneuvered into position to be released as well.

The user has selected the desired Rotating Container 3 therefore; Rotating Assembly 4 is rotated by Rotating Assembly Motor 2 to properly align the selected Rotating Container 3

into proper position. Rotating Container Motor 14 rotates Rotating Container 3 to allow for the proper number of compartments to be released, as seen in Fig. 2.

Once in position, Compartment Releaser 8, as seen in Fig. 5, Fig. 6, and Fig. 7 latches onto compartments Retractable Bottom 5b by inserting Latch 8b into Notch 5a, as seen in Fig. 3 and Fig. 4. Latch 8b rotates, fastening itself to compartments Retractable Bottom 5b. Compartment releaser Motor 8a retracts, pulling Retractable Bottom 5b out from underneath Formula Dispensing Compartment 5 allowing powdered formula to be released. Compartment 5's contents fall into Baby Formula Funnel 18, whose mouth is properly aligned to ensure the entire amount of powder is released into bottle resting in Bottle Receptacle 20. Process continues until desired amount of formula has been released to produce pre-selected amount of formula.

Finally, Rotating Bottle Receptacle Assembly 19, under the direction of Control Panel 1, is properly positioned by means of Rotating Bottle Receptacle Motor 6 to ensure both water and powder fall directly into bottle which rests in Bottle Receptacle 20.

All electronic steps are made possible by Power Cord 12, which is inserted into wall outlet. Power Cord 12 provides Electric Control Panel 1, Water Volume Sensor 9, and Water Temperature Sensor 11 with electricity needed to regulate the flow of electricity, thus enabling electronic functions to be executed.